2. Project Background

The State Water Project, operated by the Department of Water Resources, spans from California's Upper Feather River Lakes to its southernmost terminal delivery point at the Perris Dam facilities in Riverside County. Perris Dam and Lake are located 15 miles south of Riverside and about 65 miles east of Los Angeles. Lake Perris is a multi-purpose reservoir providing: 1) water supply; 2) recreation; 3) fishery and wildlife enhancement; 4) emergency storage for water deliveries; and 5) incidental flood protection.

Perris Dam is a zoned earthfill embankment containing approximately 25 million cubic yards of compacted fill. It is approximately 11,600 feet long, with a maximum structural height of 128 feet. The normal maximum operating level is 1588 feet, 108 feet above the reservoir bottom. The spillway crest is at 1590 feet, and the dam crest elevation is 1600 feet. The as-designed normal reservoir capacity is about 127,000 acre-feet with a surface area of 2292 acres. The reservoir is owned and operated by the DWR in cooperation with MWD, as part of the latter's system to supply municipal and industrial water throughout much of Southern California. The recreational facilities of the LPSRA are operated by the DPR with input from the DFG and the DBW.

Engineering studies undertaken over the past few years have found Perris Dam to be seismically deficient because of weak layers of low density, liquefiable alluvium in the southerly foundation that could deform under seismic conditions, resulting in significant deformations of the dam. These deformations could lower the dam crest enough to permit overtopping. This risk has led to the temporary lowering of Lake Perris by 27 feet below the spillway level to mitigate the seismic risk while a permanent solution is being determined.

The purpose of the present reconnaissance level study is to explore numerous long-term options for modification of Lake Perris and Perris Dam in order to provide guidance for the selection of a preferred remedial or modification alternative. Options include a completely empty reservoir, a lowered reservoir for recreation use only, a reservoir at the current lowered lake level of 1563 feet, a reservoir at the historical normal operating level of 1588 feet, and expanded reservoir capacities of 257,000, 500,000, 700,000 and 1,000,000 acre-feet. Evaluations for these options included appraisals of construction magnitude, schedules, and impacts to the public and the local community, recreation, environmental impacts, operations, reservoir/dam recertification, and storage agreements. Also appraised in the study are impacts to reliability and capacity of appurtenant facilities including the SAVPL and the Perris inlet works, outlet works, spillway, and pumpback facilities. The outcome of this reconnaissance level study will be used to help determine what further studies are needed to support the selected remedial or modification option for the Perris Dam facilities.

Figure 2.1 illustrates the State Water Project system. Figures 2.2 through 2.5 illustrate Lake Perris and its vicinity.

Figure 2.1 State Water Project Map

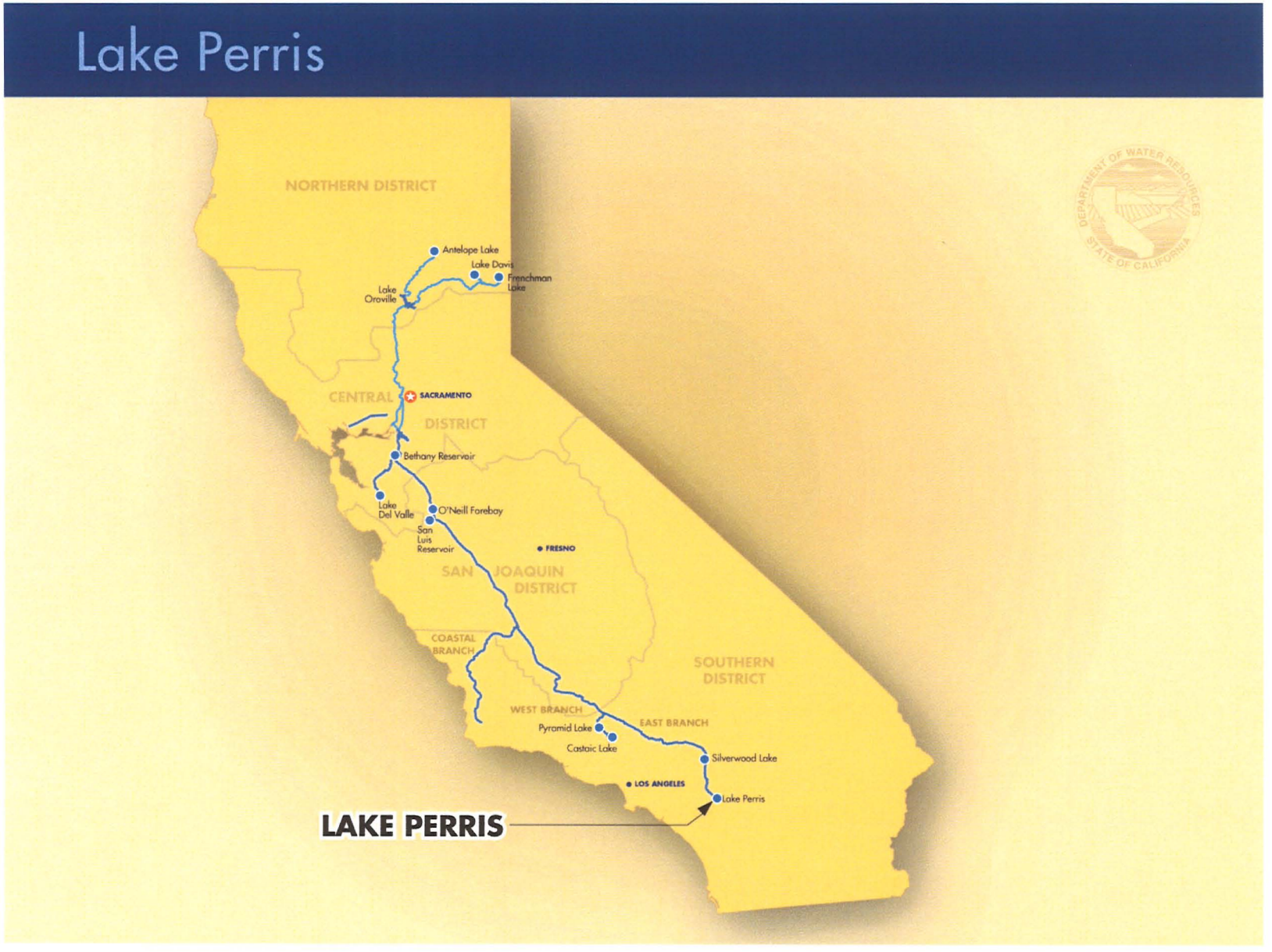

Figure 2.2 Vicinity Map

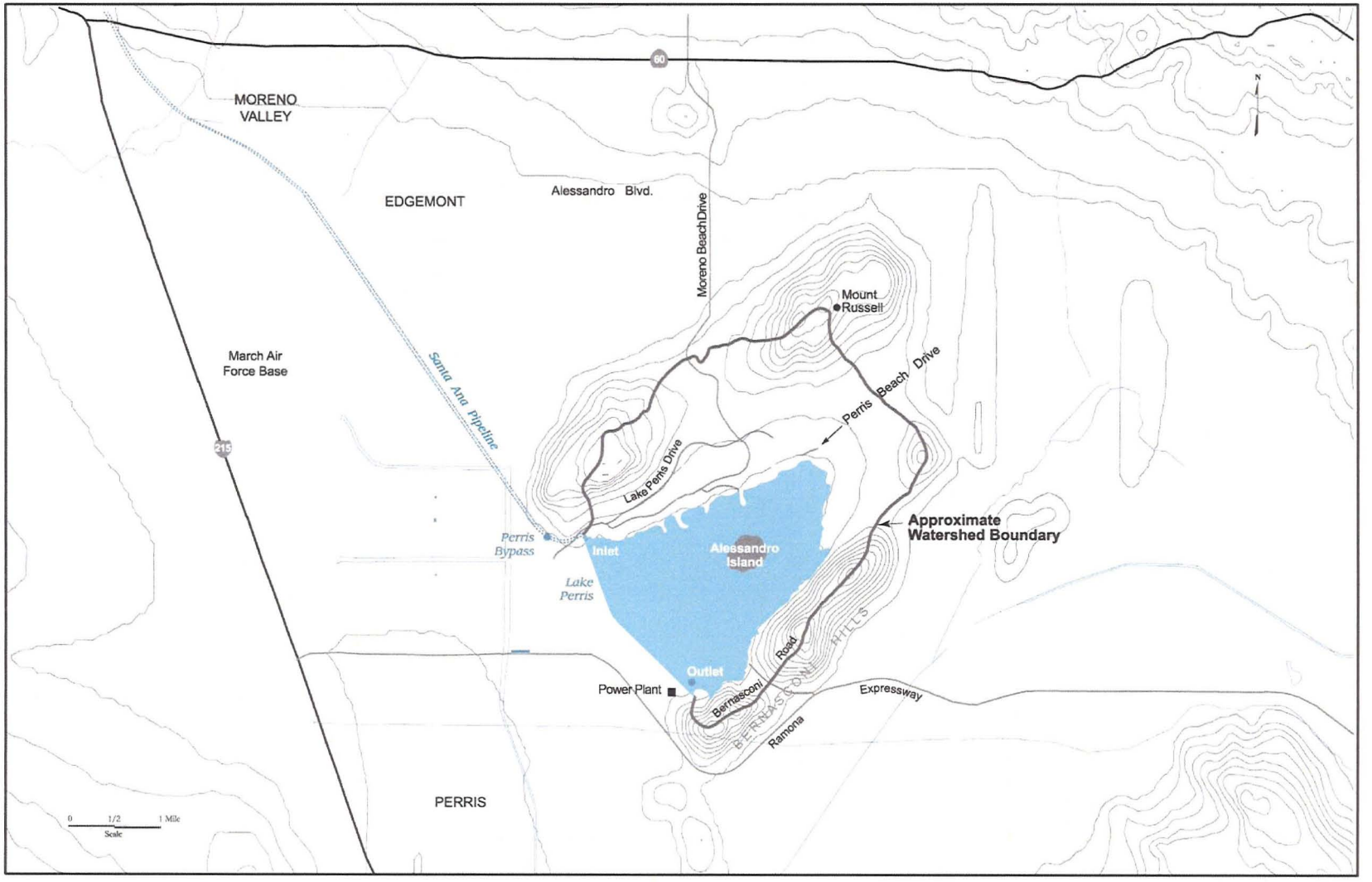

Figure 2.3 Vicinity Photo

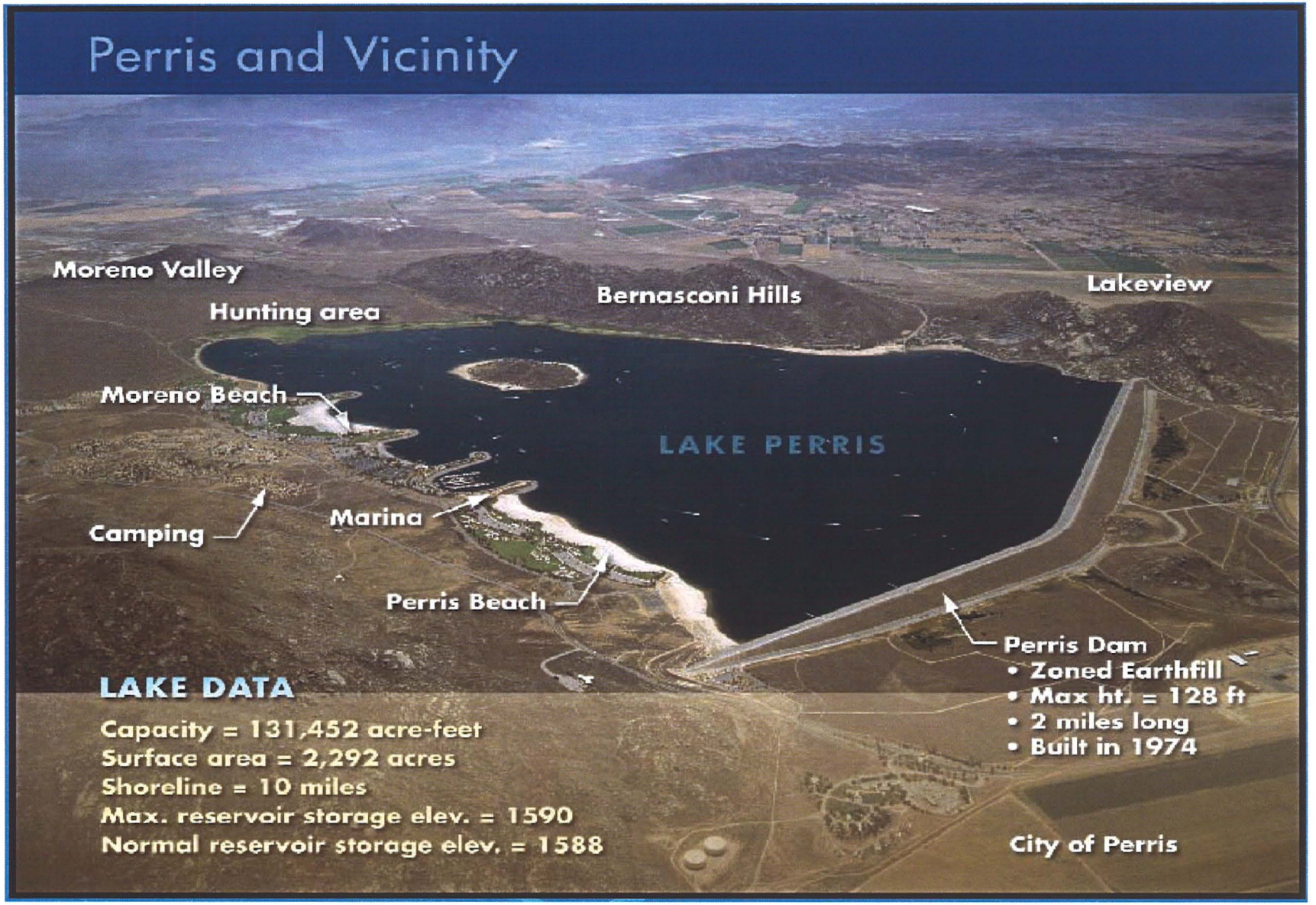

Figure 2.4 Project Map

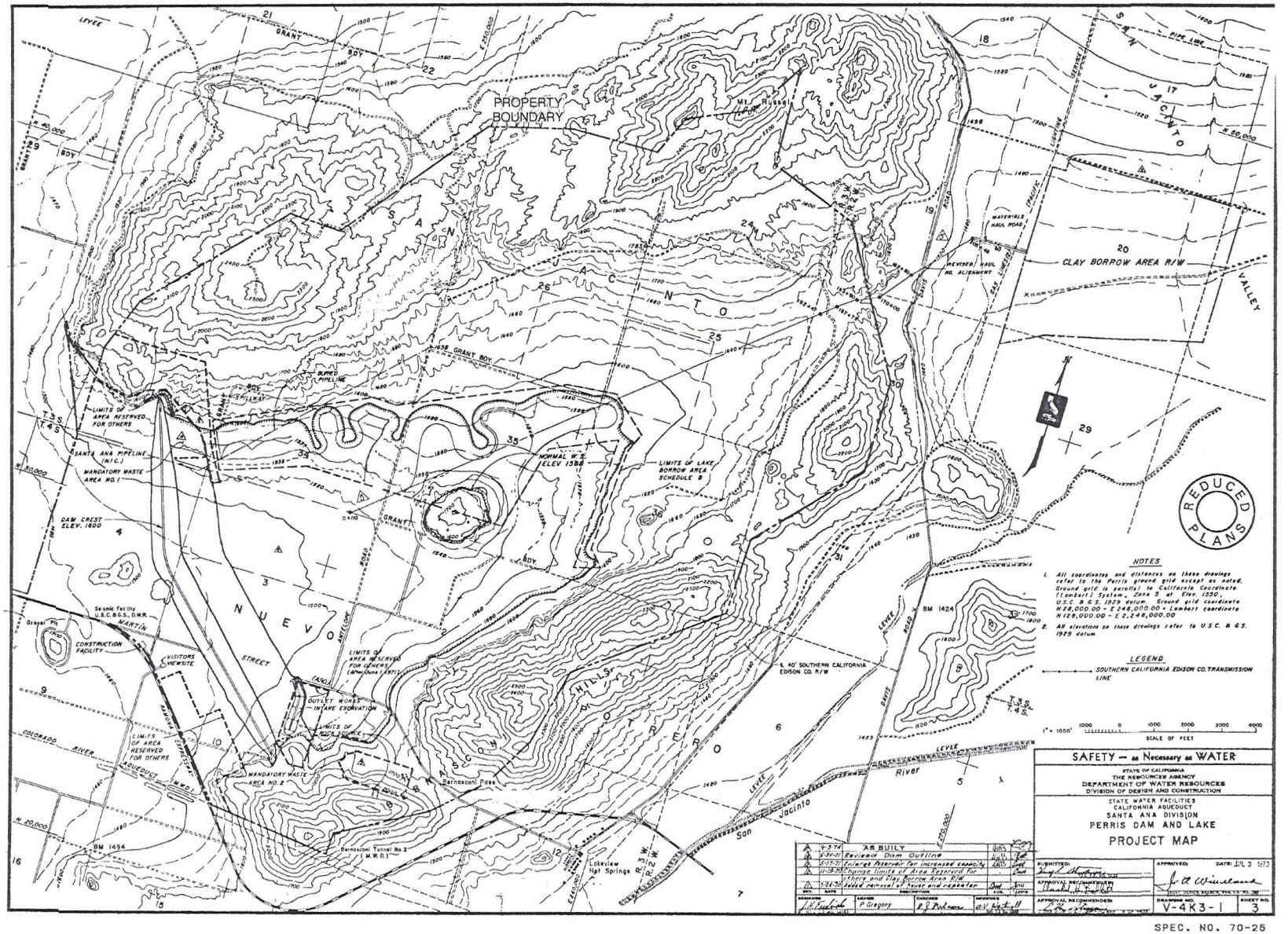

Figure 2.5 Main Water Conveyance Picture